

RIEGL VZ-400i

TLS



The **RIEGL VZ-400i** is a cutting-edge 3D Laser Scanning System which combines a future-oriented, innovative processing architecture and internet connectivity with **RIEGL's** latest waveform processing LiDAR technology.

This real-time data flow is enabled through dual processing platforms: a dedicated processing system for simultaneous acquisition of scan data and image data, waveform processing and system operations, and a second processing platform which enables automatic on-board registration, geo-referencing, and analysis to be executed in parallel.



RIEGL VZ-400i

Ultra High Performance 3D Laser Scanner *Redefining Productivity!*

Typical Applications

- Architecture & Facade Measurements • As-Built Surveying • Archeology & Cultural Heritage Documentation • City Modeling
- Civil Engineering • Building Information Modeling (BIM) • Forensics & Crash Scene Investigation • Emergency Management
- Tunnel Surveying • Forestry • Research • Monitoring



Scan this QR code to watch the VZ-400i video.

www.riegl.com



RIEGL VZ-400i Main Features

- ultra high speed data acquisition with up to 500,000 meas./sec, survey-grade accuracy ≤ 5 mm, up to 800 m measurement range
- high quality point cloud colorization based on Nikon® SLR camera image data taken simultaneously during scanning, integration of various cameras possible
- orientation sensor for pose estimation
- advanced flexibility through support for external peripherals and accessories, e.g. external Bluetooth GNSS receiver on top
- cloud connectivity via Wi-Fi and 3G/4G LTE
- fully compatible with the RIEGL VMZ Hybrid Mobile Laser Mapping System
- RISCAN PRO standard processing software (included), RiSOLVE for fully automatic registration and colorization of scan data (optional)

Automatic On-board Registration

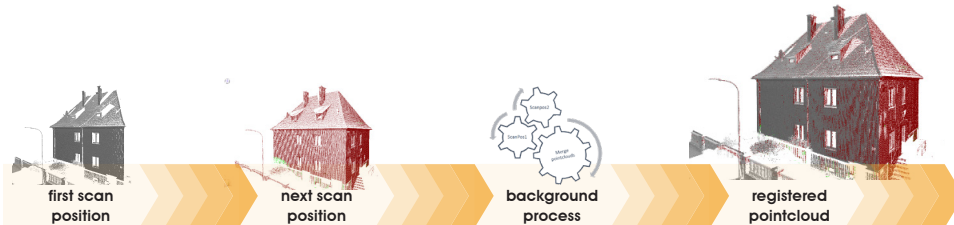
With two processors on-board, the RIEGL VZ-400i is able to perform different processes in real-time such as automatic on-board registration in parallel to the scan data acquisition.

Processor 1

- scan data acquisition
- simultaneous acquisition of photographs during scanning
- pose estimation (using GNSS/IMU/environment sensors)

Processor 2

- conversion of scan data into RIEGL data base
- on-board multiple time around resolution
- registration of scan data as a background process

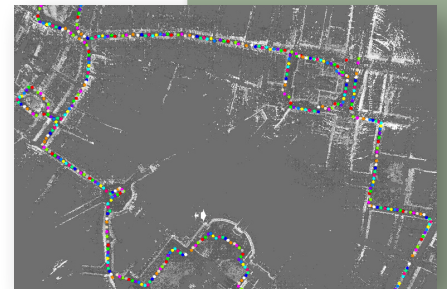


VZ-400i Field Experience:

One of the fastest scanners on the market:
500+ scans (50 mdeg) within 8 hours,
 handled by one operator!



RIEGL VZ-400i night scan in Vienna



overview of scan positions (colored dots)



scan data detail, reflectance-scaled

Further Application Examples:



city modeling



forensics & investigation

RIEGL VZ-400i Technical Data

800m max. measurement range	1.2MHz pulse repetition rate PRR	online waveform processing	Wi-Fi and 3G/4G LTE
optional camera	multiple target capability	Laser Class 1	

Laser Pulse Repetition Rate PRR (peak)	100 kHz	300 kHz	600 kHz	1,200 kHz
Max. Effective Measurement Rate (meas./sec)	42,000	125,000	250,000	500,000
Max. Measurement Range ($\rho \geq 90\%$)	800 m	480 m	350 m	250 m
Max. Measurement Range ($\rho \geq 20\%$)	400 m	230 m	160 m	120 m
Minimum Range	1.5 m	1.2 m	0.5 m	0.5 m
Accuracy / Precision	5 mm / 3 mm			
Field of View (FOV)	100° vertical / 360° horizontal			
Eye Safety Class	Laser Class 1 (eyesafe)			
Main Dimensions (width x height) / Weight	206 mm x 308 mm / 9.7 kg			

Further details to be found on the current RIEGL VZ-400i Data Sheet.